UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MICHAEL J. BUCHENHORNER
8540 S.W. 83 STREET
MIAMI, FL 33143

EXAMINER
BOTTS, MICHAEL K

ART UNIT	PAPER NUMBER
2176	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/662,799	RAGHAVACHARI ET AL.
	Examiner	Art Unit
	Michael K. Botts	2176

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 June 2006 and 24 July 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-29</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 July 2006</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This document is a Final Office Action on the merits.   This action is responsive to the following communications: Amendment and Response to Office Action, which was filed on June 9, 2006, and Amendment in Response to Notice of Non-Compliant Amendment, which was filed on July 24, 2006.

2.   Claims 1-29 are currently pending in the case, with claims 1, 28 and 29 being the independent claims.

3.   The Abstract was objected to. Applicants appropriately amended the Abstract. Accordingly, the objection is withdrawn.

4.   The drawings were objected to. Applicants have submitted replacement sheets correcting some, but not all, objections. Accordingly, for the reasons set forth below, the objection to the drawings remains.

5.   The specification was objected to. Applicants have appropriately amended the specification. Accordingly, the objection is withdrawn.

6.   Claim 29 was rejected under 35 U.S.C. 112, first paragraph. Applicants have amended the claim to remove the indefinite terms. Accordingly, the rejection is withdrawn as moot.

7.   Claims 1, 28, and 29 were rejected under 35 U.S.C. 112, second paragraph. Applicants have amended the claims to remove the indefiniteness of the language. Accordingly, the rejections are withdrawn as moot.

8.   Claims 1-7 and 28 were rejected under 35 U.S.C. 101. Applicants have

amended claims 1 and 28 and thereby obviated the objections. Accordingly, the

rejection is withdrawn.

9.   Claims 1-29 are rejected.

Drawings

10.   The drawings are objected to because of the following:

       a) Figure 1 is not clear and would not be able to be satisfactorily reproduced for

printing. See, MPEP 608.02(l).

       b) Figure 8 improperly contains case identification information within the margins

of the figure. See, MPEP 608.02(g).

11.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because of the reasons identified above. Applicant is advised to employ the

services of a competent patent draftsperson outside the Office, as the U.S. Patent and

Trademark Office no longer prepares new drawings. The corrected drawings are

required in reply to the Office action to avoid abandonment of the application. The

requirement for corrected drawings will not be held in abeyance.

The Specification

12.   Applicant is reminded of the continuing requirement to update the status

(pending, allowed, etc.) of all parent priority applications in the first line of the

specification. The status of all citations of U.S. filed applications in the specification

should also be updated where appropriate.

13.   The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Claims Rejections – 35 U.S.C. 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

14.   **Claims 2 and 3** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Dependent claims 2 and 3 further limit

"preprocessing" to comprise comparing the two schemas to "determine relationships."

The "preprocessing" element is indefinite for the reasons identified in the rejection of

claim 1 under 35 U.S.C. 112, second paragraph, above. The "determine relationships"

element is indefinite because "determining" a relationship may take any form from gross

analysis of size or color of text to a detailed analysis. Likewise, a "relationship" may be

superficial or complex depending on the particular relationship examined and the

method used to determine the relationship.

15.   In the interest of compact prosecution, the application is further examined against

the prior art, as stated below, upon the assumption that the applicants may overcome

the above stated rejection under 35 U.S.C. 112, second paragraph.

Claims Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

16.   **Claims 1-3, 10, 11, 28, and 29** are rejected under 35 U.S.C. 102(b) as being

clearly anticipated by Thompson, Henry S., et al., "A Standards-based XML Schema

Implementation Comparison Framework," HCRC Language Technology Group, World

Wide Web Consortium, paper presented at Extreme Markup Languages 2001, August

14-17, 2001, last downloaded by the Examiner January 31, 2006 from:

http://www.mulberrytech.com/Extreme/Proceedings/xslfo-

pdf/2001/Thompson01/EML2001Thompson01.pdf, downloaded pages cover and pages

1-7 [hereinafter "Thompson"].

Regarding **independent claim 1, as amended**, Thompson teaches:

A computer-implemented method of validating a document structured as an ordered tree having labeled elements, known to conform to varying element types in accordance with a first schema, with respect to a second schema, said method comprising:

preprocessing the first and said second schemas to identify subsumed type-pairs, of the form type1-type2 where type1 is a type defined in the first schema and type2 is a type defined in the second schema, the pairs indicating that an element's content that conforms to the first type, type 1, will also conform to the second type, type2; and

identifying subsumed element tag-type-pairs, of the form tag-type1-type2, where tag is an element name, type1 is a type in the first schema and type2 is a type in the second schema; it indicates that if the specified element tag appears in a document conforming to the first schema with content of type1, then this element tag can validly appear in a document conforming to the second schema and its content will conform to type type2.

(It is noted that the term subsumed is read to be synonymous with "matching." See, disclosure, paragraph [0012].

It is further noted that the claim compares schema element types to determine whether they match.

See, Thompson, pages 1-7, teaching comparison of a valid XML, HTML. schema or XSLT document elements, taught as structures, to a second such document structure to determine whether they match, thereby validating or invalidating the second document.

Thompson does not expressly teach that the matched pairs of elements are "tag-type-pairs in the form of "tag-type1-type2."

It is noted that the form of "tag-type1-type2" is merely a grouping of the element name and the types of the first schema and the second schema. Applicants' invention is taught that the tag is merely an identifier, such as "bill to," "ship to," etc. and that the "type1" or "type2" is, for example, "USAddress." It is further noted that any comparison of elements such as "USAddress" would necessarily have to be for the same element. Therefore it is inherent for any element being compared between two documents, the element must be identified and the corresponding element types compared to each other. Comparing different elements or not comparing the element types would be meaningless.)

Regarding **dependent claim 2**, Thompson teaches:

The method of claim 1 wherein the step of preprocessing comprises comparing said first schema and said second schema to determine relationships between said first schema and said second schema.

(See, Thompson, pages 1-7, teaching determining the relationships between the first and second schemas.)

Regarding **dependent claim 3**, Thompson teaches:

> *The method of claim 2 wherein the step of preprocessing comprises*
>
> *determining relationships between types defined in said first schema and said*
>
> *second schema.*

(See, Thompson, pages 1-7, teaching determining the relationships between types

defined in the first and second schemas.)

Regarding **dependent claim 10**, Thompson teaches:

> *The method of claim 3 wherein types assigned to document elements*
>
> *while validating with respect to said first schema are used to validate the*
>
> *document with respect to said second schema.*

(It is inherent that comparing the first and second schema, with regard to a valid first

schema, that the valid types from the first schema would be used to validate the second

schema.)

Regarding **dependent claim 11**, Thompson teaches:

> *The method of claim 10 wherein said types assigned to said document*
>
> *elements while validating with respect to said first schema are provided with said*
>
> *document.*

(It is inherent that comparing the first and second schema, with regard to a valid first

schema, that the valid types from the first schema would be used to validate the second

schema. Further, it is inherent that the elements would be provided with, or part of, the first schema.)

Regarding **independent claim 28, as amended**, Thompson teaches:

> *An information handling system for validating a document structured as an ordered tree having labeled elements, known to conform to varying element types in accordance with a first schema, with respect to a second schema; said information handling system comprising:*
>
> *a processor configured for:*
>
> *preprocessing the first and second schemas to identify subsumed type-pairs, of the form type1-type2 where type1 is a type defined in the first schema and type2 is a type defined in the second schema, the pairs indicating that an element's content that conforms to the firs type, type1, will also conform to the second type, type2; and*
>
> > *identifying subsumed element tag-type-pairs, of the form tag-type1-type2, where tag is an element name type1 is a type in the first schema and type2 is a type in the second schema; it indicates that if the specified element tag appears in a document conforming to the first schema with content of type1, then this element tag can validly appear in a document conforming to the second schema and its content will conform to type type2.*

(Claim 28 incorporates substantially similar subject matter as claimed in claim 1 and, in further consideration of the following, is rejected along the same rationale. Note that a

"processor" within an "information handling system for validating a document" is read to

include software. There is nothing in the specification that indicates that the "processor"

is any type of specialized hardware. See, Thompson, page 1, teaching that no special-

purpose software, "processor," is required for the schema comparison.)

Regarding **independent claim 29, as amended**, Thompson in view of Schema Tests

teaches:

A computer-readable medium comprising computer code for executing a

method of determining whether a document conforming to a first schema may be

cast in a second schema without validating every element of said document in

accordance with said second schema, the document being structured as an

ordered tree having labeled elements, known to conform to varying element

types in accordance with a first schema, with respect to a second schema, said

method comprising:

preprocessing the first and second schemas to identify subsumed type-

pairs, of the form type1-type2 where type1 is a type defined in the first schema

and type2 is a type defined in the second schema, the pairs indicating that an

element's content that conforms to the firs type, type1, will also conform to the

second type, type2; and

identifying subsumed element tag-type-pairs, of the form tag-type1-type2,

where tag is an element name type1 is a type in the first schema and type2 is a

type in the second schema; it indicates that if the specified element tag appears

in a document conforming to the first schema with content of type1, then this

element tag can validly appear in a document conforming to the second schema

and its content will conform to type type2.

(Claim 29 incorporates substantially similar subject matter as claimed in claim 1 and is

rejected along the same rationale.)

17.   It is noted that any citations to specific, pages, columns, lines, or figures in the

prior art references and any interpretation of the references should not be considered to

be limiting in any way. A reference is relevant for all it contains and may be relied upon

for all that it would have reasonably suggested to one having ordinary skill in the art.

See, MPEP 2123.

Claims Rejection – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

18.   **Claims 4-9 and 12-27** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Thompson, Henry S., et al., "A Standards-based XML Schema

Implementation Comparison Framework," HCRC Language Technology Group, World

Wide Web Consortium, paper presented at Extreme Markup Languages 2001, August

14-17, 2001, last downloaded by the Examiner January 31, 2006 from:

http://www.mulberrytech.com/Extreme/Proceedings/xslfo-

pdf/2001/Thompson01/EML2001Thompson01.pdf, downloaded cover page and pages

1-7 [hereinafter "Thompson"] as applied to claims 1-3 above,

in view of Thompson, Henry S., "W3C XML Schema Test Collection," W3C, January 16,

2002, last downloaded by the Examiner on January 31, 2006 from:

http://www.w3.org/2001/05/xmlschema-test-collection.html, downloaded pages 1-9,

[hereinafter "Schema Tests"],

and further in view of a subset of test results from Microsoft on complex type elements,

last downloaded by the Examiner on February 1, 1006 from:

http://www.w3.org/XML/2001/05/xmlschema-test-collection/result-ms-complexType.htm,

downloaded pages 1-178, which are linked to the "W3C XML Schema Test Collection."

[The Microsoft complex type test results referred to hereinafter as "Microsoft Complex

Type Test Results."].

Thompson teaches the validation of a second schema by comparison to a first

valid schema. Thompson does not teach the specific tests for validation.

Schema Tests teaches specific tests for validation of a second schema

compared against a first valid schema.

Microsoft Complex Type Test Results teach comparisons under hundreds of

variations and the results of the comparison testing.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the references because they all involve the same art, comparison

testing of XML schemas for validation purposes. The suggestion to combine the two references is explicit in Thompson wherein it cites the reader to the schema test collection homepage, which links directly to test results by Sun, NIST, and Microsoft (including the Microsoft Complex Type Test Results). See, Thompson, page 7, bottom of the first partial paragraph, citing to "http://www.w3.org/2001/05/xmlschema-test-collection.html."

The above discussion of the limitation and combinations of Thompson, Schema Tests, and Microsoft complex test results above are incorporated into the rejections of the specific claims below, with more specific references cited in the rejection of the claims as needed.

Regarding **dependent claim 4**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 3 wherein a type defined in said second schema is identified as a subsumed type if a relationship exists between a type in said first schema and said type in said second schema such that portions of a document that are valid with respect to said type in said first schema are also valid with respect to said type in said second schema.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results "ctH019" at page 125 of 178 showing a comparison test result with a valid second schema in the Msv Crimson and XSV test results.)

Regarding **dependent claim 5**, Thompson in view of Schema Tests and further in view

of Microsoft Complex Type Test Results teaches:

> *The method of claim 3 wherein a type defined in said second schema is*
>
> *identified as a disjointed type with respect to a type in said first schema if a*
>
> *relationship exists between said type in said first schema and said type in said*
>
> *second schema such that portions of a document that are valid with respect to*
>
> *said type in said first schema are not valid with respect to said type in said*
>
> *second schema.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results "ctH019" at

page 125 of 178 showing a comparison test result with a not valid second schema in the

Xerxes test result.)

Regarding **dependent claim 6**, Thompson in view of Schema Tests and further in view

of Microsoft Complex Type Test Results teaches:

> *The method of claim 3 wherein a type defined in said second schema is*
>
> *identified as an intersecting type if a relationship exists between a type in said*
>
> *first schema and said type in said second schema such that some portions of a*
>
> *document that are valid with respect to said type in said first schema are valid*
>
> *with respect to said type in said second schema and some portions of a*
>
> *document that valid with respect to said type in said first schema are invalid with*
>
> *respect to said type in said second schema.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results "ctH019" at

page 125 of 178 showing a comparison test result with a not valid second schema in the

Xerxes test result. It would have been obvious to one of ordinary skill in the art at the

time of the invention that a schema that was invalid as to part of the schema would have

been invalid as to all of the schema. A partially invalid schema is obviously invalid.)

Regarding **dependent claim 7**, Thompson in view of Schema Tests and further in view

of Microsoft Complex Type Test Results teaches:

> *The method of claim 3 wherein said relationships between said types*
>
> *defined in said first schema and said second schema are used to determine*
>
> *whether said document is valid or invalid in said second schema.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results "ctH019" at

page 125 of 178 showing a comparison test result with a not valid second schema in the

Xerxes test result and a valid second schema in the Msv Crimson and XSV tests.)

Regarding **dependent claim 8**, Thompson in view of Schema Tests and further in view

of Microsoft Complex Type Test Results teaches:

> *The method of claim 5 wherein a document is determined to be invalid*
>
> *with respect to said second schema if said document contains types that are*
>
> *identified as disjointed.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention

to declare that a comparison of schemas in which there are no common types could be

declare the second schema valid. This obviousness is because there is no basis from the comparison to determine that the second schema is not valid.)

Regarding **dependent claim 9**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 4 wherein any portions of a document that are of a*
>
> *subsumed type are immediately accepted as valid with respect to said second*
>
> *schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to declared that valid portions of a schema are valid. This is obvious because a valid portion is, by definition, valid.)

Regarding **dependent claim 12**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 10 wherein said types assigned to the document*
>
> *elements during validation with respect to said first schema are computed while*
>
> *validating said document with respect to said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to validate a first schema while testing validity of a second schema, in order to process large data sets quickly. Thompson teaches multiple processors for each of the first and second schema. See, Thompson, page 2.

Regarding **dependent claim 13**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 10 wherein a document is deemed invalid if a type*
>
> *assigned to a document element during validation with respect to said first*
>
> *· schema is in a disjoint relationship with a type in said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to declared that a schema is not valid when a comparison to a valid schema determines that a portion of the schema is not valid. This is obvious because a not valid portion renders, by definition, the entire second schema to be not valid.)

Regarding **dependent claim 14**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 10 wherein a document element is deemed valid if*
>
> *said document element is assigned a type during validation with respect to said*
>
> *first schema that is in a subsumed type relationship with a type in said second*
>
> *schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to declared that valid portions of a schema are valid. This is obvious because a valid portion is, by definition, valid.)

Regarding **dependent claim 15**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 10 wherein said computed information and said assignment of types when said document is validated with respect to said first schema are used to determine portions of said document that are to be validated according to said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention that the portions of the first schema that are validated are used to validate the second schema. The invention claims that the first document is validated, and valid portions of the first schema are, by definition, used to validate the second schema.)

Regarding **dependent claim 16**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 15 wherein a portion of said document is validated according to said second schema if said type assigned to said portion of said document during validation with respect to said first schema is in an intersecting relationship with a type in said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention that the roles of the first and second schemas could be reversed, so long as the schema in question is being validated by a valid schema.)

Regarding **dependent claim 17**, Thompson in view of Schema Tests and further in

view of Microsoft Complex Type Test Results teaches:

> *The method of claim 16 wherein the preprocessing comprises developing*
>
> *an automaton from a first type in said first schema and a second type in said*
>
> *second schema that are in an intersecting relationship to determine if a portion of*
>
> *said document that is assigned said first type during validation with respect to*
>
> *said first schema is valid with respect to said second type during validation with*
>
> *respect to said second schema.*

(It is noted that a "automaton" is defined in the disclosure as follows: "an immediate

decision automaton" and as "a simple computation device." See, declaration,

paragraph [0012]. The "immediate decision automaton" is disclosed with a purpose to

analyze a modified schema only up to a point where it is determined that there are no

further modifications. See, disclosure, paragraph [0015]. It would have been obvious to

one of ordinary skill in the art at the time of the invention to only conduct a comparison

test on a schema that was known to be valid prior to modification only up to the point

where the modifications stop, because the remainder of the schema is known to be

valid.)

Regarding **dependent claim 18**, Thompson in view of Schema Tests and further in

view of Microsoft Complex Type Test Results teaches:

> *The method of claim 1 wherein said first schema and said second schema*
>
> *are one of a regular expression, document type definition, finite state automata,*
>
> *XML schema and tree automata.*

(It is noted that the elements of claim 18 are read as alternative members of a Markush group. See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML schema.)

Regarding **dependent claim 19, as amended** , Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 1 wherein said document is an XML document.*

(See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML documents.)

Regarding **dependent claim 20**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 3 wherein said types are one of states in a finite state*
>
> *automaton, element type declarations in an XML schema, programming*
>
> *language types and states in a tree automaton.*

(It is noted that the elements of claim 20 are read as alternative members of a Markush group. See, Schema Tests, and also see, Microsoft Complex Type Test Results teaching comparing XML schema.)

Regarding **dependent claim 21**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 1 comprising examining said document and determining if any portions of said document have been modified subsequent to said document being validated in said first schema and limiting portions of the document to be validated based upon which portions of said document have been modified.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to run a comparison test on a schema prior to validating a schema if one thought the schema may have been modified subsequent to validation. A comparison between two documents to determine modification was well known by one of ordinary skill in the art at the time of the invention.)

Regarding **dependent claim 22**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 21 comprising identifying elements of said document that have been inserted and examining any elements that have been inserted to determine if they are valid with respect to said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to run a comparison test on a schema prior to validating a schema if one thought the schema may have been modified subsequent to validation. A comparison between two

documents to determine modification was well known by one of ordinary skill in the art at the time of the invention. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to test only the modified portions of the test schema because the remainder of the schema would be known to be valid by virtue of the prior comparison.)

Regarding **dependent claim 23**, Thompson in view of Schema Tests and further in view of Microsoft Complex Type Test Results teaches:

> *The method of claim 21 comprising identifying elements of said document that have been renamed and using a determined relationship between said renamed elements and said element prior to being renamed when validating said renamed elements with respect to said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention to run a comparison test on a schema prior to validating a schema if one thought the schema may have been modified subsequent to validation. A comparison between two documents to determine modification was well known by one of ordinary skill in the art at the time of the invention. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to test only the renamed portions of the test schema because the remainder of the schema would be known to be valid by virtue of the prior comparison.)

Regarding **dependent claim 24**, Thompson in view of Schema Tests and further in

view of Microsoft Complex Type Test Results teaches:

> *The method of claim 21 comprising identifying elements of said document*
>
> *that have been deleted and ignoring any deleted elements when validating said*
>
> *document with respect to said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention

to ignore deleted elements because a deleted element obviously has no influence on an

otherwise valid schema.)

Regarding **dependent claim 25**, Thompson in view of Schema Tests and further in

view of Microsoft Complex Type Test Results teaches:

> *The method of claim 21 wherein the information computed comprises a*
>
> *set of modification specifications such that a modification specified by said set of*
>
> *modification specifications results in the document being valid according to said*
>
> *second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention

to allow modified specifications to be permitted within the information computed and,

assuming the modified specifications were valid, to conclude that the entire document

was valid, provided the un-modified portions were already determined to be valid.)

Regarding **dependent claim 26**, Thompson in view of Schema Tests and further in
view of Microsoft Complex Type Test Results teaches:

> *The method of claim 21 wherein the information computed comprises a*
>
> *set of modification specifications such that a modification specified by said set of*
>
> *modification specifications results in a document being invalid according to said*
>
> *second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention
to allow modified specifications to be permitted within the information computed and,
assuming the modified specifications were not valid, to conclude that the entire
document was not valid.)

Regarding **dependent claim 27**, Thompson in view of Schema Tests and further in
view of Microsoft Complex Type Test Results teaches:

> *The method of claim 1 wherein said document has been modified*
>
> *subsequent to being validated in said first schema and wherein said first schema*
>
> *is the same as said second schema.*

(It would have been obvious to one of ordinary skill in the art at the time of the invention
to declare a second schema that is the same as a valid first schema to also be valid.)

19.   It is noted that any citations to specific, pages, columns, lines, or figures in the
prior art references and any interpretation of the references should not be considered to

be limiting in any way. A reference is relevant for all it contains and may be relied upon

for all that it would have reasonably suggested to one having ordinary skill in the art.

See, MPEP 2123.

Response to Arguments

Applicants' arguments filed June 9, 2006 have been fully considered, but they

are not persuasive.

Regarding rejections of claims 2 and 3 under 35 U.S.C. 112, second paragraph:

Applicants argue that the claims compare the schemas "to assist in validation of

the document" and implicitly argue that "comparing said first schema and said second

schema to determine relationships between said first schema and said second schema"

is sufficient to distinctly claim the subject matter of the invention. See, Applicants'

remarks, pages 13-14.

The Examiner disagrees.

Merely "comparing," without more specificity, does not particularly point out and

distinctly claim the method. Claim 1, from which claims 2 and 3 depend, already claim

comparing the schemas. Therefore, either claims 2 and 3 are not further limiting, or, if

further limiting, they do not distinctly claim the invention. It is suggested that the claims

be amended, without adding new matter, to claim the comparing steps with greater

specificity or detail in order to further limit the comparison already specified in claim 1.

Regarding rejections of claims 1-3, 10, 11 and 28 under 35 U.S.C. 102(b):

Applicant argues that claims 1 and 28, as amended, are not anticipated by the

reference, Thompson, because Thompson neither teaches nor suggests the claims

preprocessing steps and identifying subsumed element tag-type-pairs. It is noted that

no further argument is presented. See, Applicants Remarks, page 15.

The Examiner disagrees.

For the reasons cited in the rejection above, Thompson teaches the

preprocessing steps. See, rejections of claims 1-3, 10, 11, 28, and 29, above.

Regarding rejections of claims 4-9, 12-27, and 29 under 35 U.S.C. 103(a):

Applicant argues that claims 4-9, 12-27, and 29, as amended, are

patentable for at lest the reason argued above that claim 1 is patentable. It is noted that

due to Applicants' amendment, independent claim 29 is now rejected under 35 U.S.C.

102(b), rather that 103(a). It is noted that no further argument is presented. See,

Applicants Remarks, page 15.

The Examiner disagrees.

For the reasons cited in the rejection above, Thompson teaches the

preprocessing steps. See, rejections of claim 1, above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a).   Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS for the mailing date of this action.   In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action.   In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael K. Botts whose telephone number is 571-272-

5533.   The examiner can normally be reached on Monday through Friday 8:00-4:00

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Heather Herndon can be reached on 571-272-4136.   The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.   Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

MKB/mkb

Heather R. Herndon
Supervisory Patent Examiner
Technology Center 2100